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EXAMINER

SWARTHOUT, B

ART UNIT

PAPER NUMBER

2632

DATE MAILED:

05/22/01

24

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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# Office Action Summary

Application No.

926,008

Applicant(s)

Fujiwara et al.

Examiner

Swarthout

Group Art Unit

2632

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 2-28-01
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 5-52 is/are pending in the application.
- Of the above claim(s) 5-48 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 49-52 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

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1. Claims 17-23 and 26-36 are allowed.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (773).

Gordon discloses a method of predicting location and intensity of aircraft wake vortices comprising determining location of first aircraft 60 with respect to second aircraft 66, measuring vortex 64 using means 20/22. Intensity would have been an obvious measured characteristic, as extent of vortex is shown by 64 in display.

3. Claims 37-44, 47-50 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberwine et al in view of Rubin.

Eberwine discloses a method of predicting intensity and location of a wake vortex resulting from a second aircraft in relation to a first aircraft, except for specifically measuring a characteristic of the wake.

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Rubin teaches desirability of measuring characteristics of a wake vortex in order to indicate strength and location of a vortex to warn a following aircraft of dangerous conditions (col. 17, line 1-16).

It would have been obvious to use a measured wake characteristic as taught by Rubin as the indication of displayed wake strength and location in a system as disclosed by Eberwine, in order to indicate a more accurate picture of the wake to following aircraft.

Regarding claims 38-42, Eberwine teaches desirability of recording and displaying values of wake strength and location, and intersection of aircraft with wake to provide an alert (col. 21).

Regarding claim 43, Eberwine teaches use of aircraft type/configuration to aid in predicting wake vortex (col. 21).

Regarding claim 44, Eberwine teaches use of wind speed and direction (col. 20).

Regarding claims 48-49, Eberwine would have used some form of look up table to determine wake data based on aircraft type, speed, etc...

4. Claims 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberwine et al in view of Rubin and Beasley.

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Beasley discloses desirability of recording detected wake vortex data (col. 5, lines 12-20, 47-53), and that air temperature is used to indicate wake data (col. 5, lines 45-61).

It would have been obvious to use air temperature readings in a wake vortex system as disclosed by Eberwine, in order to have a more accurate prediction of wake movement.

5. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (773) in view of Eberwine et al.

Gordon discloses a wake vortex display system as set forth above with regard to claim 37.

Eberwine teaches using aircraft type and atmospheric data to obtain more accurate wake predictions.

It would have been obvious to use type and atmospheric inputs when determining wake vortex in a system as disclosed by Gordon, in order to predict more accurate wake information.

6. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (773) in view of Eberwine et al and McElreath et al.

McElreath teaches determining terrain elevation 160 corresponding to aircraft altitude 140 for indicating proximity to terrain.

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It would have been obvious to include terrain information in a system which provided wake data to aircraft in proximity to a runway as disclosed by Gordon and Eberwine, in order that a pilot could have known how much elevation was available in case wake was encountered.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Claim 51 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent Swarthout whose telephone number is (703) 305-4383. The examiner can normally be reached on Monday-Friday from 6:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass, can be reached on (703) 305-4717. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6743.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

BS/ayc

May 16, 2001



**BRENT A. SWARTHOUT  
PRIMARY EXAMINER**